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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,377	01/04/2006	Jeffrey S. Glenn	STAN-316	7561

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Stanford University Office of Technology Licensing
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East Palo Alto, CA 94303

EXAMINER

LUCAS, ZACHARIAH

ART UNIT	PAPER NUMBER
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1648

MAIL DATE	DELIVERY MODE
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01/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,377	GLENN ET AL.	
	Examiner	Art Unit	
	Zachariah Lucas	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9,10,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7,9,10,22 and 23 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3, 5-7, 9, 10, 22, and 23 are pending and under consideration.
2. In the prior action, the Final action mailed on July 11, 2008, claims 1, 3, 5-23 were pending in the application; with claims 1, 3, 6-10, 22, and 23 under consideration and rejected; claim 5 objected to; and claims 11-21 withdrawn from consideration.
3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 5, 2009 has been entered.

In the submission, the Applicant amended claims 1, 9, 10, 22, and 23; and cancelled claims 8 and 11-21.

Claim Objections

4. **(Prior Objection- Withdrawn)** Claim 23 was objected to because of the following informalities: the term "aid" in line 1 of the claim should read "said." In view of the amendment to the claim, the objection is withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **(Prior Rejection- Withdrawn)** Claims 1 and 3 were rejected under 35 U.S.C. 103(a) as being unpatentable over Del Vecchio et al. (WO 99/01582- of record in the April 2006 IDS) in view of the teachings of Jin et al. (Arch Biochem Biophys 20:47-53), Kadaré et al. (J Virol 70:8169-74), and Rodriguez et al. (JBC 268:8105-10). The claims have been amended to incorporate the limitations of cancelled claim 8: i.e. to require an additional step of “determining an effect of said candidate agent on replication of HCV.”

In view of the amendment, the rejection is withdrawn in favor of the restated rejection over Del Vecchio in view of Jin, Kadaré, and Rodriguez, and further in view of Wimmer et al. (U.S. 2002/0098202) below.

7. **(Prior Rejection- Maintained)** Claims 8-10, 22, and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Del Vecchio in view of Jin, Kadaré, and Rodriguez as applied to claims 1-4 previously, and further in view of Wimmer et al. (U.S. 2002/0098202). In view of the amendment of claim 1, and the cancellation of claim 8, the rejection is extended to amended claims 1 and 3, and withdrawn from cancelled claim 8.

The Applicant traverses the rejection by asserting that the claimed method requires knowledge that the GTPase activity of NS4B would have had to be known in order to render the claimed method obvious. The argument is not found persuasive.

The claims are drawn to a method for determining if a compound would be a candidate for the treatment of HCV. Because the claims are drawn to a method for determining if a

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compound would be so effective, there is no requirement that those in the art know beforehand if the test compounds, individually or as a group, would be effective.

As the prior art suggests the targeting of the HCV NS4b protein, and indicates that a potential activity of the protein to be targeted is a potential GTPase activity, and as means for determining if compounds inhibited the indicated activities of NS4b were known, the teachings of the prior art suggest the claimed methods. This is the case even though the specific function of NS4b was not known, because knowledge of the function of the protein in HCV replication is not required to determine if a compound that inhibits a potential GTPase activity of NS4b, or if such an inhibitor would inhibit HCV replication generally.

Those of ordinary skill in the art would have motivation to perform the claimed methods as previously described, and had a reasonable expectation that known methods of making the required determinations would be effective for the identification of potential inhibitors of HCV.

The arguments are therefore not found persuasive, and the rejection is maintained.

8. **(Prior Rejection- Restated as Necessitated by Amendment)** Claims 6 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Del Vecchio in view of Jin, Kadaré, and Rodriguez as applied to claims 1-4 above, and further in view of Morouianu et al. (PNAS 92:4318-22). Applicant traverses this rejection on substantially the same grounds as asserted with respect to amended claim 1 above.

In view of the amendment of claim 1 to incorporate the limitations of claim 8, the rejection is restated as a rejection of claims 6 and 7 over the teachings of over Del Vecchio in view of Jin, Kadaré, Rodriguez, and of Wimmer; and further in view of Morouianu. The

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additional teachings of Wimmer account for the new limitation of claim 1 (and thus of claims 6 and 7) for the reasons indicated in the prior actions, and above.

Because the Applicant's arguments with respect to amended claim 1 were not found persuasive for the reasons above, and as the Applicant has not provided any additional arguments with respect to the presently rejected claims, the rejection as restated is maintained for the reasons above and the reasons of record.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

10. No claims are allowed. Claim 5 is objected to as depending from a rejected claim.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is (571)272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachariah Lucas/
Primary Examiner, Art Unit 1648